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09/236,373	01/25/1999	BRUCE A. BUHLER	71-673-1	1565

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EXAMINER

PRICE, CARL D

ART UNIT	PAPER NUMBER
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3749

DATE MAILED: 09/22/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

09/236,373

Applicant(s)

BUHLER, BRUCE A.

Examiner

CARL D. PRICE

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 16 December 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-3 and 5-26 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-3 and 5-26 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

### Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

### Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_

## **Reissue Application**

### **Amendments to claims in a Reissue Application**

An amendment paper must include the entire text of each claim being changed by such amendment paper and of each claim being added by such amendment paper. For any claim changed by the amendment paper, a parenthetical expression "amended," "twice amended," *etc.*, should follow the claim number. Each changed patent claim and each added claim must include markings pursuant to paragraph (d) of this section, except that a patent claim or added claim should be canceled by a statement canceling the claim without presentation of the text of the claim.

All amendment changes must be made relative to the patent to be reissued. Pursuant to 37 CFR 1.173(d), any such changes which are made to the specification, including the claims, must be shown by employing the following "markings:"

(A) The matter to be omitted by reissue must be enclosed in brackets; and

(B) The matter to be added by reissue must be underlined, except for amendments submitted on compact discs (pursuant to 37 CFR 1.96 for computer printouts or programs, and 37 CFR 1.825 for sequence listings). Matter added by reissue on compact discs must be preceded with "U>" and end with "<U>" to properly identify the material being added.

### **Continuing Obligation under 37 CFR 1.56**

Applicant is reminded of the continuing obligation under 37 CFR 1.56 to timely apprise the Office of any litigation information, or other prior or concurrent proceeding, involving Patent No. **5,755,568**, which is material to patentability of the claims under consideration in this reissue application. This obligation rests with each individual associated with the filing and prosecution of this application for reissue. See MPEP §§ 1404, 1442.01 and 1442.04.

### **Response to Arguments**

Applicant's arguments filed **12/16/2003** have been fully considered but they are not persuasive.

Claims **1-3** and **5-26** are currently present in the application and have been examined.  
Claim **4** has been cancelled.

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In regard to applicant's statement that "The drawings will be accordingly corrected upon the indication of allowance." Applicant is reminded that proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. **The objection to the drawings will not be held in abeyance.**

### **Applicant's Remarks**

Applicant yet again argues that the prior art of record fails to show or disclose a tip head or the equivalent thereof has "a substantially arcuate configuration extending angularly between the terminal ends about an axis through an angle of at least about 240 °, and a maximum angle of about 280 °, so as to facilitate easy positioning of the member...". Regarding the arcuate extent of the torch tip, applicant's attention is again directed to the prior art reference of **Nis et al** (of record) which provides support for the examiner's position that a person having ordinary skill in the art would, according to design concerns for a given torch and torch application, necessarily modify the arcuate length of a torch, such as in **Japanese '310** and **Japanese '570**, to accommodate the desired effect of evenly heating an article about its entire surface.

Applicant argues that prior art references of **Japanese '310**, **Japanese '570**, and **Wiener et al.** do not show various limitations set forth in the claimed invention.

The examiner disagrees with applicant's characterization of the prior art **Japanese '310**, **Japanese '570**, and **Wiener et al.** as not showing "said tip outlet end of said tip stem being connected to said tip head at a position intermediate said terminal ends of said substantially arcuate tip head". Each of these prior art references, in the examiner's opinion, unquestionably show combustible gas tubular supply stems located intermediate, or mid way between, the torch tip terminal ends.

The examiner disagrees with applicant's characterization of the prior art **Japanese '310**, **Japanese '570**, and **Wiener et al.** as not showing "immediately adjacent to terminal ends of the

substantially arcuate tip head”. Each of these prior art references, in the examiner’s opinion, unquestionably show “immediately adjacent to terminal ends of the substantially arcuate tip head”.

Applicant also argues that the prior art references of **Japanese ‘310**, **Japanese ‘570**, and **Wiener et al.** do not show “*a substantially complete circumferential flame array for substantially completely heating the entire circumferential extent of the member can be achieved with a minimum of three orifices ...*”. The examiner disagrees with applicant’s characterization of the prior art **Japanese ‘310**, **Japanese ‘570**, and **Wiener et al.** as not showing “*a substantially complete circumferential flame array for substantially completely heating the entire circumferential extent of the member can be achieved with a minimum of three orifices*”. Again, applicant’s attention is directed to each of **Japanese ‘310**, **Japanese ‘570**, and **Wiener et al** which include a minimum of three orifices, that is at least three orifices.

In response to applicant's arguments against the references individually, one cannot show nonobviousness by attacking references individually where the rejections are based on combinations of references. See *In re Keller*, 642 F.2d 413, 208 USPQ 871 (CCPA 1981); *In re Merck & Co.*, 800 F.2d 1091, 231 USPQ 375 (Fed. Cir. 1986). Applicant is reminded that rejection of claims is based on the combined teachings of **Japanese ‘310**, (figures 1 and 2) or **Japanese ‘570**, in view of **Wiener et al.** (figures 2,4 and 5) and **Falk et al** (of record). While applicant contends that **Japanese ‘310**, **Japanese ‘570**, and **Wiener et al.** do not show certain limitations of the claimed invention no analysis of the combined teachings of these references, as set forth by the examiner in the rejection of the claims under 35 USC 103, has been offered by applicant. Indeed, applicant’s attention is again directed to the prior art reference of **Falk et al**, which is also is relied on to form the basis of the rejection of claims 1-3 and 5-23 under 35 USC 103. Furthermore, applicant is reminded of the Examiner’s position, regarding claims 1-3 and 5-26, the number flame ports, relative orientation of the flame ports, spacing, burner arc length, etc. would depend on numerous design concerns such as the such as the size or circumference of an article to be heated, the type of fuel burned, the amount of heat to be applied to the article heated, the flame size, the desired distribution of heat over the heated surface, etc., to space the

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orifices at an angle of 100 degrees, an angle of 120 degrees, less than about 280 degrees, at least about 245 degrees, attaching the stem at a point midway between a second and third orifice, etc. can be viewed as nothing more than mere matters of choice in design absent the showing of any new or unexpected results produced therefrom over the prior art of record.

Applicant further argues that the claimed invention relies on “a minimum of three orifices” to achieve “a substantially complete circumferential array for substantially completely heating the entire circumferential extent of the member” in the manner “shown in the left side of FIGURE 2 of the patent drawings”. In this regard Applicant’s attention is again directed to the numerous prior art references already of record, as well as those newly cited herein, which represent both the level of ordinary skill in the art as well as many of the features or elements of applicant’s claimed invention. Note for example:

- **Wetzler (US001734316)**(of record) which shows an arcuate torch head (21), *only three* flame openings (23) equally spaced at an angle of at least 100 degrees (i.e. – approximately 140 degrees as measured from figure 3 in Wetzler), where two are immediately adjacent the terminal ends of the arcuate member (23), a fuel supply connection or opening (24 or 25) located between an intermediate located and terminal end located flame port (23), and wherein the flame openings are inclined to “issue flames uniformly on a mould 18 from *above and all sides*”(emphasis added) wherein the heated member is located in a plane other than that defined by the arcuate torch (21).
- **Japanese ‘713 (JP 55-48713)**(of record) which shows an arcuate torch head (7), *only three* equally spaced flame ports (72), where two are immediately adjacent the terminal ends of the arcuate member, and fuel supply connection or opening located between an intermediate located and terminal end located flame port, arranged to produce a *substantially* complete circumferential flame array likely *substantially* completely heating the entire circumferential extent of the member.

- **Barnes et al (US002608031)**(of record) which show an arcuate torch head (13) and *only three* equally spaced flame ports (23) arranged to produce a *complete* circumferential flame array for *completely* heating the entire circumferential extent of the member (18), even though the arcuate member extends only 180 degrees.
- **Yoshinori Ito (US003618197)**(newly cited) which shows (figure 5) an arcuate torch head (figures 1A-1D13) having only two equally spaced inclined flame ports (94, 95) arranged to produce a substantially complete circumferential flame array for *completely* heating the entire circumferential extent of the member.
- **Eisler (US001819597)**(newly cited) which shows discloses () an arcuate torch head having *three* equally spaced flame ports (55) arranged to produce a substantially complete circumferential flame array likely *substantially* completely heating the entire circumferential extent of the member.

Also, related to the matter of number and spacing flame ports, relative orientation of the flame ports, burner arc length, etc., the recitation “for heating a member attendant a metal bonding operation” (claim 1) and “adapted for use with a fuel gas torch to heat or solder a metal structure such as tubular members” (claim 9) have not been given patentable weight because the recitation occurs in the preamble. A preamble is generally not accorded any patentable weight where it merely recites the purpose of a process or the intended use of a structure, and where the body of the claim does not depend on the preamble for completeness but, instead, the process steps or structural limitations are able to stand alone. See *In re Hirao*, 535 F.2d 67, 190 USPQ 15 (CCPA 1976) and *Kropa v. Robie*, 187 F.2d 150, 152, 88 USPQ 478, 481 (CCPA 1951). Additionally, recitations such as “for heating a member attendant a metal bonding operation”; “*so as to facilitate easy positioning of the member to be heated through an open side portion of said substantially arcuate tip head for disposition along said axis of said tip head*”;

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“such that a substantially complete circumferential flame array for heating the member can nevertheless be defined along a substantially complete circumferential locus by a minimum of three flame outlet orifices”; and “*so as to thereby achieve heating of the member, within and along said second plane, attendant a metal bonding operation to be achieved along said second plane*”, etc. are recitations of the intended use of the claimed invention must result in a structural difference between the claimed invention and the prior art in order to patentably distinguish the claimed invention from the prior art. If the prior art structure is capable of performing the intended use, then it meets the claim. In the case of many of the prior art references relied on to reject applicant’s claims, as well as those cited but not relied on to address the limitations of the invention set forth in applicant’s claims, the torches shown and disclosed therein are capable of performing the intended use for an appropriately sized and dimensioned heated member. The invention claimed by applicant being directed to a “torch” (claims 1, 11 and 16) and a “torch tip” (claims 9 and 20) meet the claim limitations when used to heat an appropriately sized and dimensioned member to be heated.

Applicant’s remarks that the claimed invention relies on “a minimum of three orifices” is not commensurate with the scope of the claimed invention. Applicant’s claim 1 for example does requires only “at least first, second and third flame orifices” which should not be confused with *only* three orifices. That is the claims are written to no less than three orifices and they do not preclude the presence of more than three orifices, as shown and disclosed in the prior art relied on in the examiner’s rejection of the claims. More specifically, in order to meet the limitations of the claimed invention need only show at least a first, second and third orifice arranged in the manner set forth in the claims (i.e. “such that two of said flame outlet orifices are located immediately adjacent to said terminal ends of said substantially arcuate tip head” and “wherein the third orifice is about midway angularly between the first and second orifices”, etc.), whether or not additional orifices are present between the “at least first, second, and third orifices”.

For the reasons set forth herein above and for the reasons set forth in the rejection of in the examiner’s rejection of the claims based on prior art set forth below claims 1-3 and 5-26 are not though to be patentable.



### **Drawings**

#### **§ 1.83 Content of drawing.**

(a) The drawing in a nonprovisional application **must show every feature of the invention specified in the claims.** However, conventional features disclosed in the description and claims, where their detailed illustration is not essential for a proper understanding of the invention, should be illustrated in the drawing in the form of a graphical drawing symbol or a labeled representation (e.g., a labeled rectangular box).

The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the ports being angularly oriented to generate flames extending from first to a second plane, etc. and the flames projecting outwardly with respect to the first plane to achieve heating along the second plane (see, for example, the last paragraph of claim 1 (amended)) must be shown or the feature(s) canceled from the claim(s). These structural details are essential for a proper understanding of the disclosed invention since applicant has amended the claims to include these limitations in an attempt to distinguish the claimed invention over the prior art of record. No new matter should be entered.

Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as “amended.” If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either “Replacement Sheet” or “New Sheet” pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. **The objection to the drawings will not be held in abeyance.**

**Claim Rejections - 35 USC § 103**

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims **1-3** and **5-26** are rejected under 35 U.S.C. 103(a) as being unpatentable over **Japanese '310** (of record) (figures 1 and 2) or **Japanese '570** (of record) in view of **Wiener** (figures 2,4 and 5), **Lynch et al** (of record) or **Nis et al** and **Falk et al** (of record).

**Japanese '310** and **Japanese '570** disclose the invention substantially as set forth in the claims with possible exception to:

- the curve of the torch head extending through between 240 and 280 degrees;
- the torch head having separate fuel gas and oxygen supply passages therein; and
- control means on the torch head and associated with each of the fuel gas and oxygen passages to selectively block the flow there through.

**Japanese '310** and **Japanese '570** show and/or disclose torch heads and handles having separate fuel gas and oxygen supply passages therein and control means on the torch head and associated with each of the fuel gas and oxygen passages to selectively block the flow there through. **Japanese '310** includes a tip stem (4) communicating with a fuel/oxygen passage and connected to an arcuate shaped tip head (Figures 1,2) and having at least a first, second and third angularly spaced orifices (2) which open toward a common point. And, **Japanese '310** discloses and shows flames directed angularly from a first burner head plane to a second heater member intersecting plane (figure 2). **Japanese '570** shows at least a first, second and third angularly spaced orifices (2) which open toward a common point.

**Wiener et al** teaches (figure 5; column 3, line 69 - column 4, line 2 and column 4, lines 60-72), from applicant's the same torch head field of endeavor, selectively forming the semi-circular segment (52) of the burner head to accommodate, through an arcuate distance to defined a gap to facilitated the insertion of the member to be heated into the interior of the tip head through a side portion of the tip head.

**Lynch et al** teaches (figures 8,9; column 6, lines 43-50), from applicant's the same torch head field of endeavor, alternative or selectively forming the semi-circular segment of the burner head to be greater than 180 degrees.

**Nis et al** teaches (see column 3, line 64 - column 4, line 5), from applicant's the same torch head field of endeavor, that:

FIG. 5 shows a side view of an exemplary nozzle plate 16. All of the interleaved grooves 32 and 36 in groups 29 and 29' are radially directed at common line 81 while the slots in groups 30, 30' and 31, 31' are radially directed at the common lines 82 and 83, respectively. Common line 82 is on the centerline of the tube 90 while common lines 81 and 82 are on the outer surface of the tube. Although each of the three groups are directed towards different common lines in the exemplary embodiment **it may be advantageous to direct the grooves of several groups at the same common line when the number of groups or the size of the tube increases.**

And,

The instant torch 10 is efficient and relatively inexpensive to fabricate. Additionally, the torch 10 may be repaired simply by replacing any of the three basic components (i.e., the outer members 12 and 14 and the nozzle plate 16). Furthermore, **the heat zone and flame pressure areas provided by the instant torch 10 may be modified by simply changing the size of the grooves 32 and 36 and/or the thickness of the nozzle plate 16 as well as the number of groups of grooves.**

And,

“Although the exemplary torch uses an oxygen-hydrogen mixture, other gas combinations such as methane, propane or the like can be used. Additionally, the exemplary embodiment depicts the use of three groups of grooves. **However,**

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**the number of groups and their arcuate spacing may be adjusted to alter the width of the heat zone.** The instant torch 10 having three arcuately spaced groups of grooves provided a heat zone having approximately one-half the length (i.e., 1.25" to 2.5") of hot zones generated by the torch shown in U.S. Pat. No. 4,401,267. “

And,

“It is to be understood that the embodiments described herein are merely illustrative of the principles of the invention. **Various modifications may be made thereto by persons skilled in the art which will embody the principles of the invention and fall within the spirit and scope thereof. For instance, the torch 10 is arranged to provide an arcuate surface of approximately 180 degree., however the arc can be less than or greater than 180.degree. and may be 360 degrees forming an annulus through which a tube 90 may pass.**

**Falk et al** teaches, from the applicant's same torch head field of endeavor, forming a integral torch head and handle tube (11) to include separate fuel gas and oxygen supply passages (21,25) therein and control means (40,55) on the torch head and associated with each of the fuel gas and oxygen passages to selectively block or control the flow there through. **Falk et al** includes a tip stem (29) communicating with the fuel and oxygen passages and connected to a tip head (34) having a flame orifice.

In regard to claims **1-3** and **5-26**, for the purpose of facilitating the insertion of the member to be heated into the interior of the tip head, it would have been obvious to a person having ordinary skill in the art to dimension the arcuate dimensions of **Japanese '310** and **Japanese '570** to accommodate passage of the member to be heated through a side portion of the tip head, in view of the teaching of **Wiener et al**, or in view of the teaching of **Nis et al**.

And, for the purpose of forming an integral torch head and handle tube, it would have been obvious to one with ordinary skill in the art to modify the torch head and handle of **Japanese '310** and **Japanese '570**, to include a integral torch head and handle tube having separate fuel gas and oxygen supply passages therein and control means on the torch head/handle tube associated with each of the fuel gas and oxygen passages to selectively block or control the

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flow there through, in view of the teaching of **Falk et al.** In regard to **Japanese '570**, in particular, it would have been obvious to a person having ordinary skill in the art to modify the gas ports to be in the form of a single row of ports, in view of the teaching of **Japanese '310**.

Also, in regard to claims **1-3** and **5-26**, since the number, relative orientation, spacing, burner arc length, etc. would depend on numerous design concerns such as the size or circumference of an article to be heated, as taught by **Nis et al** or **Lynch et al**, the type of fuel burned, the amount of heat to be applied to the article heated, the flame size, the desired distribution of heat over the heated surface, etc., to space the orifices at an angle of 100 degrees, to form the tip to have an arcuate extent of 120 degrees, less than about 280 degrees, at least about 245 degrees, attach the stem at a point midway between a second and third orifice, etc. can be viewed as nothing more than mere matters of choice in design absent the showing of any new or unexpected results produced there from over the prior art of record.

Also, the recitation “for heating a member attendant a metal bonding operation” has not been given patentable weight because the recitation occurs in the preamble. A preamble is generally not accorded any patentable weight where it merely recites the purpose of a process or the intended use of a structure, and where the body of the claim does not depend on the preamble for completeness but, instead, the process steps or structural limitations are able to stand alone. See *In re Hiram*, 535 F.2d 67, 190 USPQ 15 (CCPA 1976) and *Kropa v. Robie*, 187 F.2d 150, 152, 88 USPQ 478, 481 (CCPA 1951). And, the claim limitation that heating is “within and along said second plane, attendant a metal bonding operation to be achieved along said second plane.”, is a recitation of the intended use of the claimed invention must result in a structural difference between the claimed invention and the prior art in order to patentably distinguish the claimed invention from the prior art. If the prior art structure is capable of performing the intended use, then it meets the claim. In a claim drawn to a process of making, the intended use must result in a manipulative difference as compared to the prior art. See *In re Casey*, 152 USPQ 235 (CCPA 1967) and *In re Otto*, 136 USPQ 458, 459 (CCPA 1963).

### **Conclusion**

See the attached PTO FORM 892 for prior art made of record and not relied upon which is considered pertinent to applicant's disclosure.

- **Japanese '040 (JP62-29040)**(newly cited) which shows an arcuate or ring torch head (100) with inclined flame openings (110) arranged to converge at a point (Y; figure 7 (c)) to a point located in a plane parallel to a plane of the burner. See also figures 12-14 illustrating the point of convergence (i.e. – 13, 16, 18) located in a plane parallel to a plane of the burner.
- **Wilkinson (US000312941)**(newly cited) which shows an arcuate or ring torch head (F) with inclined flame openings (s,s,s) arranged to converge on a heated member (B).
- **Japanese '040 (JP62-29040)**(newly cited) which shows an arcuate or ring torch head (100) with inclined flame openings (110) arranged to converge at a point (Y; figure 7 (c)) to a point located in a plane parallel to a plane of the burner. See also figures 12-14 illustrating the point of convergence (i.e. – 13, 16, 18) located in a plane parallel to a plane of the burner.
- **Cartun (US002482400)**(newly cited) which shows an arcuate torch head (9) with inclined flame openings (10).
- **Lysak (US03201217)**(newly cited) includes a gap (104) permitting entry of a heated member (14) to the center of the burner from the side.
- **Schweitzer (US001046112)** discloses any number of branches or blowing flames may be fitted at the end of the main gas tube.

### **THIS ACTION IS MADE FINAL**

**THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO**

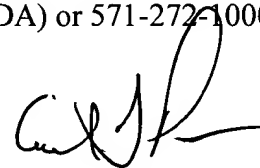
MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

**USPTO CONTACT INFORMATION**

Any inquiry concerning this communication or earlier communications from the examiner should be directed to CARL D. PRICE whose telephone number is (571) 272-4880. The examiner can normally be reached on Monday through Friday between 6:30am-3:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Ehud Gartenberg can be reached on (571) 272-4828. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.



CARL D. PRICE

Primary Examiner

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